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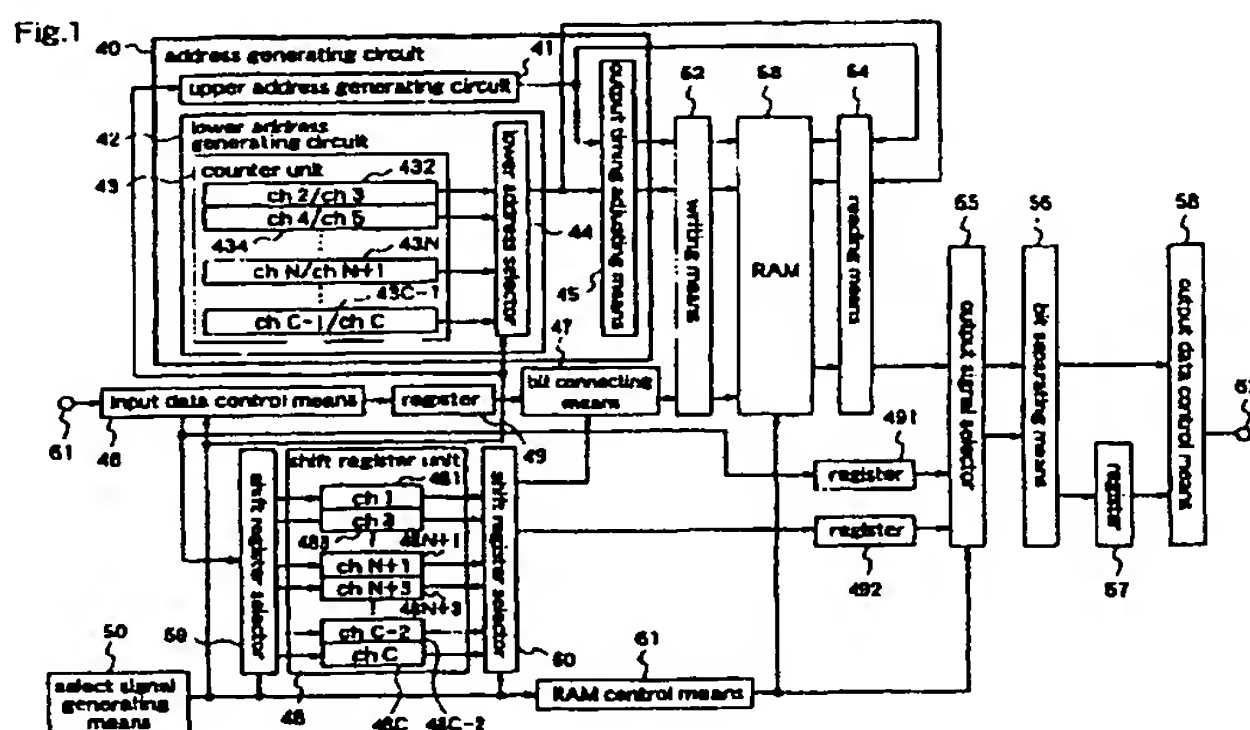
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(54) **Convolutional interleaver, convolutional deinterleaver, convolutional interleaving method, and convolutional deinterleaving method**

(57) A convolutional interleaver performs convolutional interleaving for a data group in which the input/output data width is  $b$  bits, the depth, i.e., the number of data in bit width units, is  $m$ , the number of channels is  $n$ , and the maximum channel number is  $C$  ( $n = \text{integer satisfying the relation } 0 \leq n \leq C$ ,  $b, m, C = \text{natural numbers}$ ). This interleaver includes a delay unit comprising first and second delay units and performing a delay of  $nT$  for data of the  $n$ -th channel ( $T = \text{a predetermined amount of delay, } T > 0$ ). The first delay unit performs a delay of  $iS$  ( $S = \text{a predetermined amount of delay, } 0 < S \leq T$ ) for the  $i$ -th group amongst groups into

which all the channels are grouped such that each group comprises at most  $k$  channels, and the second delay unit performs a delay equivalent to a deficiency in the delay of the first delay unit for the delay of  $nT$  to be given to the data of the  $n$ -th channel. Therefore, delays to be commonly generated between channels in each group are generated together by the first delay unit, and delays including differences in delays between the channels are individually generated by the second delay unit, whereby control and structure of the delay means can be simplified.





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# EUROPEAN SEARCH REPORT

Application Number  
EP 99 10 8204

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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 19 April 2000	Examiner Georgiou, G
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82